50

Quality of Life in Long-term Survivors of Muscle-Invasive Bladder Cancer

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Purpose/Objective(s): Health-related quality of life (QOL) is not well studied in survivors of muscle-invasive bladder cancer (MIBC). This cross-sectional multi-institutional study compared long-term QOL in MIBC patients treated with bladder-sparing trimodality therapy (TMT) versus radical cystectomy (RC).

Materials/Methods: Patients with nonmetastatic cT2−T4 MIBC, diagnosed in 1990 to 2011 and disease free for ≥2 years were identified. A questionnaire using validated general and disease-specific QOL instruments was administered, comprised of the EuroQOL (EQ-5D) 3L and visual analogue scale (VAS), the European Organization for Research and Treatment of Cancer Quality of Life Core Questionnaire (EORTC QLQ-C30) and Muscle-Invasive Bladder Cancer Module (QLQ-BLM30), and the Expanded Prostate Cancer Index Composite − Bowel domain (EPIC Bowel). Questionnaire scores ranged from 0 to 100. Multivariable effects of treatment (TMT vs. RC) on QOL scores were estimated using a Neyman−Rubin causal model with a regression adjustment estimator.

Results: Of 226 eligible patients, 173 returned the questionnaire for a response rate of 77%. Sixty-four patients received TMT and 109 patients received RC (89 with ileal conduit and 18 with neobladder diversions). The median time from diagnosis to questionnaire was 9 years after TMT versus 6 years after RC ($P = .009$). Comparing TMT to RC, there was no significant difference in age at diagnosis or questionnaire, gender, tobacco history, comorbidities, performance status, or clinical tumor stage. On univariable analysis (UVA), patients who received TMT had significantly better general QOL than patients who received RC by 7.4 points on the EQ-5D 3L and 7.2 points on the EORTC QLQ-C30 (Table). On multivariable analysis (MVA), adjusting for age, time from diagnosis, year of treatment, gender, and comorbidities, patients who received TMT had significantly better general QOL by an average of 6 to 7 points. On MVA, TMT was associated with significantly better bowel function by an average 4.5 points on the EPIC bowel function subscale, but with no difference in bowel bother. Urinary QOL was equivalent between groups, as measured by the EORTC QLQ-BLM30.

Conclusion: Both TMT and RC provide good long-term QOL outcomes in MIBC survivors. TMT appears to be associated with higher general QOL and bowel function compared to RC.

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Oral Scientific Abstracts 50; Table 1

QOL	Instrument	Effect estimate (TMT vs. RC) [95% CI] UVA	P-value	MVA	P-value
General	EQ-5D VAS	4.8 [-0.4, 10.0]	0.07	3.6 [-1.8, 9.1]	0.2
	EQ-5D 3L*	7.4 [2.9, 11.9]	0.001	6.6 [2.2, 11.1]	0.005
	EORTC QLQ-C30 (Global health status/QOL)	7.2 [1.3, 13.1]	0.02	6.3 [0.2, 12.3]	0.04
Urinary	EORTC QLQ-BLM30 (Urinary Symptoms)	2.0 [-9.4, 13.4]	0.7	2.7 [-9.4, 14.8]	0.7
Bowel	EPIC Bowel − Functional	5.0 [1.3, 8.7]	0.008	4.5 [0.8, 8.2]	0.02
	EPIC Bowel − Bother	2.0 [-3.2, 7.2]	0.4	1.3 [-3.9, 6.5]	0.6

*Scores multiplied by 100.